

CLAIMS

1. A method for routing data from one or more analog channels on a data link to corresponding receiving channels via a software router implemented on a processor, the method
5 comprising:

enabling an interrupt for only one of the one or more analog channels on the data link;
and

transferring data from each analog channel on the data link to corresponding receiving channels when the interrupt occurs.

10 2. The method of claim 1, wherein the enabling step includes adding an analog channel to the data link, including:

15 creating a new analog channel;
adding the new analog channel to an active channel list for the data link; and
enabling the interrupt of the new analog channel if the new analog channel is a first analog channel in the data link.

20 3. The method of claim 2, wherein the adding step further includes:

disabling the interrupt of the new analog channel if the new analog channel is not the first analog channel in the data link.

4. The method of claim 1, wherein the enabling step includes deleting a specified analog channel from the data link, including:

determining whether the specified analog channel to be deleted has an enabled interrupt;
and

deleting the specified analog channel if its interrupt is not enabled.

5 5. The method of claim 4, wherein when the interrupt of the specified channel is
enabled, the deleting step further includes:

disabling the interrupt of the specified analog channel to be deleted if the interrupt is
initially enabled; and

deleting the specified analog channel if an active channel list for the data link does not
10 contain a channel other than the specified analog channel.

6. The method of claim 5, wherein the deleting step further includes:

enabling an interrupt of a first analog channel on the active channel list if the active
channel list for the data link contains a channel other than the specified analog channel.

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7. The method of claim 1, wherein the transferring step includes, for each active
channel on the data link:

finding a corresponding receiving channel and data link corresponding thereto; and
routing data from the active channel to the corresponding receiving channel..

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8. An article of manufacture including software embodied on a computer-readable
medium for routing data from one or more analog channels on a data link to corresponding
receiving channels, the computer-readable-medium-embodied-software comprising:

a first program segment for enabling an interrupt for only one of the one or more analog channels on the data link; and

a second program segment for transferring data from each analog channel on the data link to corresponding receiving channels when the interrupt occurs.

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9. The article of claim 8, wherein the first program segment includes:

a third program segment for creating a new analog channel;

a fourth program segment for adding the new analog channel to an active channel list for the data link; and

10 a fifth program segment for enabling the interrupt of the new analog channel if the new analog channel is a first analog channel in the data link.

15 10. The article of claim 9, wherein the fifth program segment disables the interrupt of the new analog channel if the new analog channel is not the first analog channel in the data link.

11. The article of claim 8, wherein the first program segment includes:

a sixth program segment for determining whether the specified analog channel to be

20 deleted has an enabled interrupt; and

a seventh program segment for deleting the specified analog channel if its interrupt is not

enabled.

12. The article of claim 11, wherein the first program segment includes:

an eighth program segment for disabling the interrupt of the specified analog channel to

be deleted when the sixth program segment determines that the interrupt of the specified channel is enabled; and

5 a ninth program segment for deleting the specified analog channel if an active channel list for the data link does not contain a channel other than the specified analog channel.

13. The article of claim 12, wherein first program segment includes:

a tenth program segment for enabling an interrupt of a first analog channel on the active channel list if the active channel list for the data link contains a channel other than the specified analog channel.

10 14. The article of claim 8, wherein the second program segment includes:

an eleventh program segment for finding a corresponding receiving channel and data link corresponding thereto; and

15 a twelfth program segment for routing data from the active channel to the corresponding receiving channel.

16 15. A method for routing data from a plurality of analog channels on a data link to corresponding receiving channels via a software router implemented on a processor, the method comprising:

20 enabling interrupts for less than all of the plurality of analog channels on the data link; disabling interrupts for remaining channels of the plurality of analog channels on the data link; and

transferring data from the remaining channels on the data link to corresponding receiving

channels when the interrupts of the less than all of the plurality of analog channels occur.